REMARKS

In accordance with the foregoing, the independent claims 37, 46 and 55 have been amended to improve form and to recite in the respective preambles thereof that the address electrode is disposed on the first substrate --adjacent a-- bottom of the cavity and, further, new dependent claims 60/37, 61/46 and 62/55 are added, each thereof reciting that --at least a portion of the address electrode being new the bottom of the cavity--. Applicants intend by the foregoing to make clear that the "adjacent the bottom of the cavity" relationship of the independent claims is of sufficient scope to encompass the address electrode being displaced -- e.g., by a layer of a dielectric from, but still adjacent to, bottom of the cavity or being disposed partly or completely within the cavity. Further, new claims 63-92 are added to provide a varying scope of protection for the invention.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please AMEND the following claims:

28. (ONCE AMENDED) A method of forming a phosphor layer in a discharge cell of a surface discharge type plasma display panel, wherein the discharge cell is defined in a cavity bounded on [at least] two sides by [respective] a pair of opposing and spaced sidewalls of [a pair of] respective barriers, the method comprising:

depositing a phosphor paste within the cavity, the phosphor paste having a content of phosphor in a range of from 10% to 50%, by weight; and

firing the phosphor paste to form the phosphor layer.

29. (AS UNAMENDED) The method as recited in claim 28, further comprising:

selecting the weight percentage of the phosphor in the paste in accordance with the desired thickness of the phosphor layer, after firing the paste; and

applying the phosphor paste in an amount sufficient to substantially fill the cavity.

30. (AS UNAMENDED) The method as recited in claim 29, further comprising:

selecting the content of phosphor in the phosphor paste to be in a range from 10% to 50%, by weight, when the desired thickness of the phosphor layer is selected in a range of from 10 microns to 50 microns, respectively.

31 (AS UNAMENDED) The method as recited in claim 28, wherein the phosphor paste further comprises a thickening agent and an organic solvent.

32. (AS UNAMENDED) The method as recited in claim 31, wherein the thickening agent is selected from the group consisting of cellulose and acrylic resin thickening agents.

33. (AS UNAMENDED) The method as recited in claim 31, wherein the organic solvent is selected from the group consisting of alcohol and ester solvents.

34. (AS UNAMENDED) The method as recited in claim 28, further comprising:

applying the phosphor paste within the cavity and firing same so as to form the phosphor layer covering a bottom portion of the cavity including the address electrode.

35. (AS UNAMENDED) The method as recited in claim 28, further comprising:

applying the phosphor paste within the cavity and firing same so as to form the phosphor stripe extending continuously from the bottom of the cavity onto, and covering, the respective opposing sidewalls of the barriers defining the cavity.

36. (AS UNAMENDED) The method as recited in claim 35, wherein the phosphor layer is formed on the opposing sidewalls of the adjacent barriers in a height not exceeding a height of the barriers.

37. (ONCE AMENDED) A method of forming a phosphor layer in a discharge cell of a surface discharge type plasma display panel, wherein a pair of barriers extending in a first direction in a first substrate are spaced apart in parallel relationship in a second direction, transverse to the first direction, and define a cavity therebetween, bounded by respective opposing sidewalls of the pair of barriers and extending commonly therewith in the first direction, an address electrode being disposed on the first substrate[, bottom of the cavity] and extending in the first direction:

depositing a phosphor paste within the cavity, the phosphor paste having a content of phosphor in a range of from 10% to 50%, by weight; and

firing the phosphor paste to form the phosphor layer.

38. (AS UNAMENDED) The method as recited in claim 37, further comprising:

selecting the weight percentage of the phosphor in the paste in accordance with the desired thickness of the phosphor layer, after firing the paste; and

applying the phosphor paste in an amount sufficient to substantially fill the cavity.

39. (AS UNAMENDED) The method as recited in claim 38, further comprising:

selecting the content of phosphor in the phosphor paste to be in a range from 10% to 50%, by weight, when the desired thickness of the phosphor layer is selected in a range of from 10 microns to 50 microns, respectively.

40 (AS UNAMENDED) The method as recited in claim 37, wherein the phosphor paste further comprises a thickening agent and an organic solvent.

41. (AS UNAMENDED) The method as recited in claim 40, wherein the thickening agent is selected from the group consisting of cellulose and acrylic resin thickening agents.

42. (AS UNAMENDED) The method as recited in claim 40, wherein the organic solvent is selected from the group consisting of alcohol and ester solvents.

43. (AS UNAMENDED) The method as recited in claim 37, further comprising:

applying the phosphor paste on the first substrate within the cavity and firing same so as to form the phosphor layer covering a bottom portion of the cavity including the address electrode.

44. (AS UNAMENDED) The method as recited in claim 37, further comprising:

applying the phosphor paste on the first substrate within the cavity and firing same so as to form the phosphor layer extending continuously from the bottom of the cavity onto, and covering, the respective opposing sidewalls of the barriers defining the cavity.

45. (AS UNAMENDED) The method as recited in claim 44, wherein the phosphor layer is formed on the opposing sidewalls of the adjacent barriers in a height not exceeding a height of the barriers.

46 (ONCE AMENDED) A method of forming phosphor layers in an array of discharge cells formed on a first substrate of a plasma display panel of a surface discharge type, the array comprising plural columns, in a first direction, and plural rows, in a second direction transverse to the first direction, of plural unit luminescent areas, each unit luminescent area comprising a respective set of a common number of discharge cells, wherein each discharge cell comprises:

a cavity bounded by respective opposing and spaced sidewalls of a pair of parallel barriers formed on a first substrate, the cavity extending commonly with the pair of barriers in a first direction;

an address electrode on the first substrate[, bottom of the cavity] and extending in the first direction;

a pair of display electrodes formed in parallel, spaced relationship on a surface of a second substrate covered by an insulating layer and positioned in opposed relationship with the barriers, the pair of display electrodes extending in a second direction, transversely to the barriers and the first direction, and the pair of display electrodes defining an individual display cell within the cavity, the method comprising:

depositing a phosphor paste having a content of phosphor in a range of from 10% to 50%, by weight, on one of the first and second substrates; and

firing the phosphor paste so as to form a phosphor layer in each discharge cell, extending between the respective opposing sidewalls of the barriers.

47. (ONCE AMENDED) The method as recited in claim [37] 46, further comprising:

selecting the weight percentage of the phosphor in the paste in accordance with the desired thickness of the phosphor layer, after firing the paste; and

applying the phosphor paste in an amount sufficient to substantially fill each cavity.

48. (AS UNAMENDED) The method as recited in claim 47, further comprising:

selecting the content of phosphor in the phosphor paste to be in a range from 10% to 50%, by weight, when the desired thickness of the phosphor layer is selected in a range of from 10 microns to 50 microns, respectively.

49. (AS UNAMENDED) The method as recited in claim 46, wherein the phosphor paste further comprises a thickening agent and an organic solvent.

50. (ONCE AMENDED) The method as recited in claim [46] 49, wherein the thickening agent is selected from the group consisting of cellulose and acrylic resin thickening agents.

51. (ONCE AMENDED) The method as recited in claim [46] 49, wherein the organic solvent is selected from the group consisting of alcohol and ester solvents.

52. (AS UNAMENDED) The method as recited in claim 46, further comprising:

applying the phosphor paste on the first substrate within the cavity and firing same so as to form the phosphor layer covering a bottom portion of the cavity including the address electrode.

53. (AS UNAMENDED) The method as recited in claim 46, further comprising:

applying the phosphor paste on the first substrate within the cavity and firing same so as to form the phosphor layer extending continuously from the bottom of the cavity onto, and covering, the respective opposing sidewalls of the barriers defining the cavity.

54. (AS UNAMENDED) The method as recited in claim 53, wherein the phosphor layer is formed on the opposing sidewalls of the adjacent barriers in a height not exceeding a height of the barriers.

55. (AS UNAMENDED) A discharge cell of a surface discharge type plasma display panel, comprising:

a pair of barriers extending in a first direction on a first substrate and spaced apart in parallel relationship in a second direction transverse to the first direction and with a cavity therebetween, bounded by respective opposing sidewalls of the pair of barriers and extending commonly therewith in the first direction;

an address electrode on the first substrate, extending in the first direction;

a pair of display electrodes formed in parallel, spaced relationship on a surface of a second substrate, covered by an insulating layer and positioned in opposed relationship with the barriers, the pair of display electrodes extending in the second direction, transversely to the barriers, and the spacing between the pair of display electrodes defining an individual display cell within the cavity; and

a phosphor layer disposed within the cavity formed by firing a phosphor paste on one of the first and second substrates and firing same so as to form the phosphor layer extending between the barriers and throughout the cell, the phosphor paste having a content of phosphor in a range of from 10% to 50%, by weight, to produce a selected thickness of the phosphor layer in a range of from 10 to 50 microns, respectively.

56. (AS UNAMENDED) A composition for forming a phosphor layer in a cavity of a discharge cell of a substrate of a surface discharge type plasma display panel, comprising:

a phosphor paste having a content of phosphor in a range of from 10% to 50%, by weight.

57. (AS UNAMENDED) A composition as recited in claim 56, wherein the phosphor paste further comprises a thickening agent and an organic solvent.

58. (AS UNAMENDED) A composition as recited in claim 57, wherein the thickening agent is selected from the group consisting of cellulose and acrylic resin thickening agents.

59. (AS UNAMENDED) A composition as recited in claim 57, wherein the organic solvent is selected from the group consisting of alcohol and ester solvents.

Please ADD the following claims:

60. (NEW) The method as recited in claim 37, wherein the at least a portion of the address electrode is disposed within the bottom of the cavity.

61. (NEW) The method as recited in claim 46, wherein the at least a portion of the address electrode is disposed within the bottom of the cavity.

62. (NEW) The discharge cell as recited in claim 55, wherein the at least a portion of the address electrode is disposed within the bottom of the cavity.

63. (NEW) A method of forming a phosphor layer in a discharge cell of a surface discharge type plasma display panel, wherein the discharge cell is defined in a cavity bounded by a barrier sidewall, the method comprising:

depositing a phosphor paste within the cavity, the phosphor paste having a content of phosphor in a range of from 10% to 50%, by weight; and

firing the phosphor paste to form the phosphor layer.

64. (NEW) The method as recited in claim 63, further comprising:

selecting the weight percentage of the phosphor in the paste in accordance with the desired thickness of the phosphor layer, after firing the paste; and

applying the phosphor paste in an amount sufficient to substantially fill the cavity.

65. (NEW) The method as recited in claim 64, further comprising:

selecting the content of phosphor in the phosphor paste to be in a range from 10% to 50%, by weight, when the desired thickness of the phosphor layer is selected in a range of from 10 microns to 50 microns, respectively.

66 (NEW) The method as recited in claim 63, wherein the phosphor paste further comprises a thickening agent and an organic solvent.

67. (NEW) The method as recited in claim 66, wherein the thickening agent is selected from the group consisting of cellulose and acrylic resin thickening agents.

68. (NEW) The method as recited in claim 66, wherein the organic solvent is selected from the group consisting of alcohol and ester solvents.

69. (NEW) The method as recited in claim 63, further comprising:

applying the phosphor paste within the cavity and firing same so as to form the phosphor layer covering a bottom portion of the cavity including the address electrode.

70. (NEW) The method as recited in claim 63, further comprising:

applying the phosphor paste within the cavity and firing same so as to form the phosphor stripe extending continuously from the bottom of the cavity onto, and covering, the respective opposing sidewalls of the barriers defining the cavity.

71. (NEW) The method as recited in claim 70, wherein the phosphor layer is formed on the opposing sidewalls of the adjacent barriers in a height not exceeding a height of the barriers.

72. (NEW) A method of forming a phosphor layer in a discharge cell of a surface discharge type plasma display panel defined in respective cavities bounded by respective barrier sidewalls, the discharge cells aligned in plural columns in a first direction and plural rows in a second direction transverse to the first direction, plural address electrodes being supported on the first substrate and extending in the first direction in alignment with respective plural discharge cells, comprising:

depositing a phosphor paste within the cavities, the phosphor paste having a content of phosphor in a range of from 10% to 50%, by weight; and

firing the phosphor paste to form respective phosphor layers in the plural cavities.

73. (NEW) The method as recited in claim 72, further comprising:

selecting the weight percentage of the phosphor in the paste in accordance with the desired thickness of the phosphor layer, after firing the paste; and

applying the phosphor paste in an amount sufficient to substantially fill the cavity.

74. (NEW) The method as recited in claim 73, further comprising:

selecting the content of phosphor in the phosphor paste to be in a range from 10% to 50%, by weight, when the desired thickness of the phosphor layer is selected in a range of from 10 microns to 50 microns, respectively.

75. (NEW) The method as recited in claim 72, wherein the phosphor paste further comprises a thickening agent and an organic solvent.

76. (NEW) The method as recited in claim 75, wherein the thickening agent is selected from the group consisting of cellulose and acrylic resin thickening agents.

77. (NEW) The method as recited in claim 75, wherein the organic solvent is selected from the group consisting of alcohol and ester solvents.

78. (NEW) The method as recited in claim 72, further comprising:

applying the phosphor paste on the first substrate within the cavity and firing same so as to form the phosphor layer covering a bottom portion of the cavity including the address electrode.

79. (NEW) The method as recited in claim 72, further comprising:

applying the phosphor paste on the first substrate within the cavity and firing same so as to form the phosphor layer extending continuously from the bottom of the cavity onto, and covering, the respective barrier sidewall defining the cavity.

80. (NEW) The method as recited in claim 79, wherein the phosphor layer is formed on the opposing sidewalls of the adjacent barriers in a height not exceeding a height of the barriers.

81 (NEW) A method of forming phosphor layers in an array of discharge cells formed on a first substrate of a plasma display panel of a surface discharge type, the array comprising plural columns, in a first direction, and plural rows, in a second direction transverse to the first direction, of plural image elements, each image element comprising a respective set of a common number of discharge cells, wherein each discharge cell comprises:

a cavity bounded a respective cavity sidewall supported by a first substrate;

an address electrode supported by the first substrate and extending in the first direction, a portion thereof being aligned with the cavity;

a pair of display electrodes formed in parallel, spaced relationship on a surface of a second substrate covered by an insulating layer and positioned in opposed relationship with the address electrode, the pair of display electrodes extending in a second direction, transversely to the first direction defining an individual discharge cell within the cavity, the method comprising:

depositing a phosphor paste having a content of phosphor in a range of from 10% to 50%, by weight, on one of the first and second substrates; and

firing the phosphor paste so as to form a phosphor layer in each discharge cell, extending between the respective opposing sidewalls of the barriers.

82. (NEW) The method as recited in claim 81, further comprising:

selecting the weight percentage of the phosphor in the paste in accordance with the desired thickness of the phosphor layer, after firing the paste; and

applying the phosphor paste in an amount sufficient to substantially fill each cavity.

83 (NEW) The method as recited in claim 82, further comprising:

selecting the content of phosphor in the phosphor paste to be in a range from 10% to 50%, by weight, when the desired thickness of the phosphor layer is selected in a range of from 10 microns to 50 microns, respectively.

84 (NEW) The method as recited in claim 81, wherein the phosphor paste further comprises a thickening agent and an organic solvent.

85. (NEW) The method as recited in claim 84, wherein the thickening agent is selected from the group consisting of cellulose and acrylic resin thickening agents.

86. (NEW) The method as recited in claim 84, wherein the organic solvent is selected from the group consisting of alcohol and ester solvents.

87. (NEW) The method as recited in claim 81, further comprising:

applying the phosphor paste on the first substrate within the cavity and firing same so as to form the phosphor layer covering a bottom portion of the cavity including the address electrode.

88. (NEW) The method as recited in claim 81, further comprising:

applying the phosphor paste on the first substrate within the cavity and firing same so as to form the phosphor layer extending continuously from the bottom of the cavity onto, and covering, the respective barrier sidewall defining the cavity.

89. (NEW) The method as recited in claim 88, wherein the phosphor layer is formed on the opposing sidewalls of the adjacent barriers in a height not exceeding a height of the barriers.

90. (NEW) The method as recited in claim 72, wherein the portion of the address electrode is disposed within the bottom of the cavity.

91. (NEW) The method as recited in claim 81, wherein the portion of the address electrode is disposed within the bottom of the cavity.

92. (NEW) The discharge cell as recited in claim 81, wherein the portion of the address electrode is disposed near the bottom of the cavity.